



# Title 24 Energy Code & Related Training

March 4, 2002

Training on issues relating to the (AB970) 2001 *Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24 Energy Code) is currently being offered by the Utilities

## **PG&E**

<http://www.pge.com/stockton>

or

[http://www.pge.com/003\\_save\\_energy/003c3\\_stockton.shtml](http://www.pge.com/003_save_energy/003c3_stockton.shtml)

## **SoCal Gas & SDG&E**

<http://www.socalgas.com>

or

[http://www.socalgas.com/business/resource\\_center/erc\\_seminar\\_info.shtml](http://www.socalgas.com/business/resource_center/erc_seminar_info.shtml)

Also see SoCal/SDG&E information at end of this flyer

## **SCE**

<http://www.sce.com>

or

[http://www.sce.com/sc3/002\\_save\\_energy/002f\\_ctac/002f3\\_work\\_classes/default.htm](http://www.sce.com/sc3/002_save_energy/002f_ctac/002f3_work_classes/default.htm)

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For more information contact John Eash @ [jeash@energy.state.ca.us](mailto:jeash@energy.state.ca.us)

# Training Videos



*NOW ON-LINE @*

[www.consumerenergycenter.org/videos/index.html](http://www.consumerenergycenter.org/videos/index.html)

Currently training videos on “Radiant Barriers”, “Cool Roofs” residential “HVAC Diagnostics,” “Fenestration (Glazing),” “Insulation Installation,” and “Structural Insulated Panels” are available for viewing along with text on FAQ’s, Relevant Standards, Benefits, Resources and How to Contact the Energy Commission. Videos on “House Wrap” will be available soon. The requirements related to the AB970 Energy Efficiency Standards are reviewed for each video subject.



**consumer energy center**

*Six in-depth classes held free on a variety of dates and at different locations. Choose the most relevant and convenient for you!*

- Air Conditioning Contractors of America (ACCA) Manual J Residential Load Calculations and Equipment Selection
- ACCA Manual D Residential Duct Design
- Advanced ACCA Manual D
- Combined Hydronic System Sizing Guidelines
- High-Performance Duct Systems and 2001 Residential Energy Standards Overview
- HVAC System Air Flow and Static Pressure Diagnostics

*Dates  
and  
Details  
Inside*



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# Title-24 Residential New Construction Training



**Complying with  
2001 California  
Residential  
Energy Standards  
Will Significantly  
Affect  
Your Projects.**

## Are you prepared?

**Get ready now by attending these  
*free* in-depth classes.**

These classes are brought to you by The Gas Company® in partnership with the Southern California Building Industry Association Education Foundation, under the auspices of the California Public Utilities Commission.

**Register Now!  
Class Sizes Are Limited.  
Pre-registration is required.**

## T-24 Compliance is More Challenging Than Ever

# Energy Resource Center

***These classes can help you understand the recent T-24 changes and your most cost-effective compliance options.***

## What Others Say About the Classes

*"Outstanding Program."*

— William Irwin, owner,  
Delta Refrigeration Company

*"Great class. Very knowledgeable teacher...helps to enhance one's outlook on the profession."*

— M. Aceves,  
Sandoval Heating and Air

### Who Should Attend

Architects & designers  
Builders  
Energy consultants  
Engineers  
HVAC contractors  
Building department inspectors  
& plan checkers

*"Changes made in 2001 will affect the residential energy standards more significantly than any other changes since 1983."*

— Doug Beaman, CEA  
and instructor

## Class Descriptions:

***The Gas Company® offers six classes in its 2002 Residential Title-24 training program. Each can help you recognize your options and learn how energy-saving technologies can help reduce your cost of complying with the new energy standards.***

***Attend one class, or all six! Choose a date, time and location that's convenient for you from the class schedule on the registration panel.***

### ACCA Manual J Residential Load Calculation and Equipment Selection

***Description:*** Focus will be on performing room-by-room load calculations. Every participant will receive a copy of the ACCA Manual J. Topics will include:

- Using the ACCA Manual J workbook, worksheets and short form.
- How to use manufacturer's cooling capacity sheets.
- Calculating required cubic feet per minute (CFM), based on loads.
- Selecting equipment, based on loads and required CFM.
- Plus, a demonstration of how to use the Wrightsoft-brand computer software for performing Manual J calculations.

*This class will end at the exact starting point of the Manual D class, preparing participants for that class.*

### ACCA Manual D Residential Duct Design

***Description:*** Focus will be on designing residential duct systems according to ACCA Manual D specifications. Every participant will receive a copy of the ACCA Manual D and a flex duct calculator. Participants should first have attended the Manual J class, or have a working knowledge of room-by-room load calculations. Topics will include:

- How to determine total static pressure and available static pressure.
- Calculating total equivalent length of duct runs.
- Determining friction rate, based on total equivalent length and available static pressure.
- Using a duct calculator to properly size ducts.
- How registers are used to achieve desired air distribution within each room.

*This class will cover how to perform Manual D calculations, both manually and by using the Wrightsoft-brand computerized Manual D program.*



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# Energy Resource Center

## Advanced ACCA Manual D

*Offered twice at the ERC only; see registration panel for details. Participants must first have attended the ACCA Manual D duct design class.*

**Description:** This class will step beyond the introduction to ACCA Manual D to more advanced topics including how to perform Manual D calculations using the official Wrightsoft brand ACCA computer software program. The class will be split between the classroom and the computer lab. Participants will perform group exercises and have the opportunity to work, with instructor assistance, on individual problems. Class topics will cover:

- Homes with multiple HVAC systems.
- Two-story homes with single systems.
- Using the computer program to generate room-by-room load calculations and select HVAC equipment.
- Learn how to use the graphic design module of the computer software, which automatically calculates room-by-room load calculations and provides Manual D duct design.

## Combined Hydronic Systems Sizing Guidelines

**Description:** This class will review and explain how to use the Gas Research Institute *Guidelines For Sizing and Installing Combo Systems*. (A copy of the report and guidelines will be included.) While system installations will be briefly reviewed, the primary focus of the class will be on how to size combo systems. A demonstration combo system will be displayed. Class will cover:

- Water heater sizing for both hot water and space heating.
- Cooling and heating coil sizing guidelines.
- Air flow recommendations for heating and cooling.

## High-Performance Duct Systems and 2001 Residential Energy Standards Overview

**Description:** Oriented toward builders, HVAC contractors and engineers, this class will review changes to the Residential Energy Standards. Plus, it will include a hands-on demonstration of duct system testing that HVAC contractors and builders will be using under the 2001 standards. Class topics will include:

- A demonstration of high-performance glazing.
- A demonstration of radiant barrier roof sheathing.
- How to use the Home Energy Rating System (HERS) verification process.
- Plus, a hands-on duct test.

*This class is a prerequisite for HVAC contractors who plan to work with builders enrolled in The Gas Company's Energy Advantage Home Program and who perform the high-performance duct leakage tests.*

## HVAC System Air Flow and Static Pressure Diagnostics

**Description:** Participants in this hands-on class will use a full-size horizontal HVAC system to measure air flow, static pressure and amperage under various system configurations. System variables will include different filters, coils, variable size return ducts and different leakage amounts. Hands-on work in the class will include:

- Measuring static pressure.
- Measuring pressure drop.
- Identifying potential air flow problems and solutions.
- Instruments for testing and diagnostics.

*Participants will be making changes to a model system and performing all tests under the guidance of the instructor. It is recommended that participants in this class first attend both the ACCA Manual J and D classes.*

*"Douglas Beaman is an experienced and dynamic instructor with complete knowledge in all aspects of Title-24 energy standards. His teaching style makes learning and retaining information easy, plus I use his handouts as permanent reference materials."*

—Carole Christensen,  
CEA

## Learn from An Expert: Doug Beaman, CEA

Doug Beaman is a certified energy analyst who has trained hundreds of builders, HVAC contractors, building inspectors and energy consultants during the last 20 years. His high-energy, informative presentations are interesting and humorous. He is a member of the California Building Industry Association, the California Building Officials Organization, The California Association of Building Energy Consultants and the American Society of Heating, Refrigeration and Air Conditioning Engineers.



The speakers' views and opinions are strictly their own. The Gas Company does not warrant the accuracy, completeness, or usefulness of, nor shall The Gas Company be liable for the speaker's information or presentations. Program content and speakers subject to change without notice.

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## Register Now!

Call 800-427-6584, press option one.  
Or call direct 562-803-7500.

**Pre-registration is required.**

Priority Code: EMAIL

**Easy**  Phone: 1-800-427-6584,  
press option one.

**Easier**  Fax: 1-562-803-7551.

**Easiest**  Internet:  
[www.socalgas.com/erc](http://www.socalgas.com/erc).

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Company: \_\_\_\_\_ Street: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_ Fax: ( ) \_\_\_\_\_  
E-mail: \_\_\_\_\_

 To better  
serve you

## Class Schedule

☐ Yes! Sign me up for the following:

### Class Locations

Fullerton: Four Points Hotel Sheraton  
1500 S. Raymond Ave.

Chatsworth: The Gas Company  
9400 Oakdale Ave.

Downey: The Gas Company's  
Energy Resource Center  
9240 Firestone Blvd.

#### ACCA Manual J: Time: 9 a.m.-4 p.m.

- ☐ Downey—Wednesday, February 6 (Seminar #8158)
- ☐ Fullerton—Thursday, March 7 (Seminar #8160)
- ☐ Chatsworth—Wednesday, April 10 (Seminar #8162)
- ☐ Downey—Wednesday, May 1 (Seminar #8159)

#### ACCA Manual D: Time: 9 a.m.-4 p.m.

- ☐ Downey—Thursday, February 7 (Seminar #8163)
- ☐ Fullerton—Friday, March 8 (Seminar #8165)
- ☐ Chatsworth—Thursday, April 11 (Seminar #8166)
- ☐ Downey—Thursday, May 2 (Seminar #8164)

#### Advanced ACCA Manual D: Time: 9 a.m.-4 p.m.

- ☐ Downey—Friday, April 12 (Seminar #8167)
- ☐ Downey—Friday, May 3 (Seminar #8168)

#### Combined Hydronic System Sizing Guidelines:

Time: 9 a.m.-Noon

- ☐ Downey—Wednesday, March 20 (Seminar #8169)
- ☐ Chatsworth—Wednesday, April 24 (Seminar #8170)

#### High-Performance Ducts/2001 Residential Overview: Time: 9 a.m.-1 p.m.

- ☐ Fullerton—Wednesday, February 27 (Seminar #8177)
- ☐ Downey—Friday, March 22 (Seminar #8175)
- ☐ Chatsworth—Friday, April 26 (Seminar #8178)
- ☐ Downey—Wednesday, May 15 (Seminar #8176)

#### HVAC System Air Flow and Static

Pressure Diagnostics: Time: 9 a.m.-4 p.m.

- ☐ Fullerton—Thursday, February 28 (Seminar #8173)
- ☐ Downey—Thursday, March 21 (Seminar #8171)
- ☐ Chatsworth—Thursday, April 25 (Seminar #8174)
- ☐ Downey—Thursday, May 16 (Seminar #8172)

**Pre-registration  
is required**

Cancellation policy: Written notice of cancellation must be received by The Gas Company<sup>®</sup> at least seventy-two (72) hours prior to the start of the program. Registrants who find it necessary to cancel are advised to confirm by telephone The Gas Company's receipt of their written notice. Programs are held subject to enrollment. Dates and program details are based on information available upon publication of the brochure and may be subject to change. In the event of program cancellation, The Gas Company assumes no liability for nonrefundable transportation costs, hotel accommodations or other additional costs incurred by registrants.